

SMITH-COOPER[®]

INTERNATIONAL

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Butterfly Valve Installation Procedure - For Lug & Wafer Style Valves

Always position the connecting pipe flanges accurately in the line, allowing sufficient space between the flanges for the valve. Make sure the pipe flange faces are clean of any foreign material such as scale, metal shavings or welding slag. Valves should be installed with the disc in the closed position to prevent damage to sealing surfaces or the disc.

1. Carefully insert the valve between the pipe flanges. Do not apply any lubricants to the seat faces as this may damage them.
2. Line up, center and secure the valve between flanges using desired bolts or studs as listed in Table 2. Do not tighten bolts at this time.
3. Carefully open the valve to assure free unobstructed disc movement. Disc interference may result when valves are installed in pipelines having smaller than normal inside diameters, such as heavy wall pipe, plastic-lined pipe, as-cast flanges or reducing flanges. Interference can also occur when connecting directly to swing check or silent check valves. Suitable corrective measures must be taken to remove these obstructions, such as taper boring the pipe or installing a spacer or spool piece.
4. After proper operation is verified, tighten the bolts to the minimum recommended bolt torques listed in Table 1 below using a cross-over pattern.
5. Pressurize piping to valve and inspect for leakage. If leakage is observed, tighten bolts using cross-over pattern, increasing torque until leak stops. DO NOT EXCEED MAXIMUM TORQUES LISTED IN TABLE 1.
6. Recommended torques are made without warranty. Installer must verify proper strength bolts for application. Bolts shall be clean and un-lubricated.

Caution

1. Class 250 cast iron and Class 300 steel flanges **can not** be used on these valves.
2. Rubber faced or mechanical flanges are **not recommended**.
3. This valve is **not recommended** for steam service.
4. Valves should **not** be assembled to the flanges and then welded into the piping system.
5. Lever-lock handles are **not recommended** for use on 8" and larger valves.
6. Do not install EPDM liner in compressed air lines.

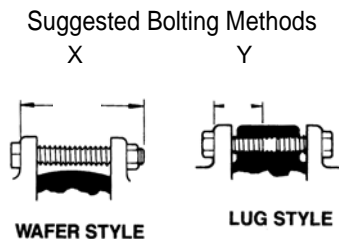
Table 1 Recommended Bolt Tightening Torque

Flange Size	Bolt Size	Minimum Bolt Torque (ft. • lbs.)	Maximum Bolt Torque (ft. • lbs.)
2" - 4"	5/8"	20	70
5" - 8"	3/4"	30	120
10" & 12"	7/8"	50	200
14" & 16"	1"	70	240
18" & 20"	1-1/8"	100	380
24" & 30"	1-1/4"	140	520
36" - 48"	1-1/2"	200	800

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VALVE SIZE 1000/2000/3000 SERIES ONLY	TOTAL VALVE BODY WIDTH	ANSI B16.1 CLASS 125 CAST IRON FLANGE THICKNESS	ANSI B16.5 CLASS 150 STEEL FLANGE THICKNESS	ANSI B16.47 (SERIES A) CLASS 150 STEEL MSS SP-44 FLANGE THICKNESS	ANSI B16.47 (SERIES B) CLASS 150 STEEL WELD NECK FLANGE THICKNESS	ANSI B16.47 (SERIES B) CLASS 150 STEEL BLIND STYLE FLANGE THICKNESS	RECOMMENDED CAP SCREW LENGTH (LUGGED VALVES) DIMENSION "Y"	RECOMMENDED BOLT LENGTH (WAFFER VALVES) DIMENSION "X"	TOTAL QUANTITY CAP SCREWS/BOLTS (TO MOUNT 2 FLANGES)	CAP SCREW SIZE
2"	1.69	0.63	—	—	—	—	1.25	4.00	8/4	5/8-11 UNC
		—	0.75	—	—	—	1.50	4.00	8/4	
2 1/2"	1.81	0.69	—	—	—	—	1.50	5.00	8/4	5/8-11 UNC
		—	0.88	—	—	—	1.75	5.00	8/4	
3"	1.81	0.75	—	—	—	—	1.50	5.00	8/4	5/8-11 UNC
		—	0.94	—	—	—	1.75	5.00	8/4	
4"	2.06	0.94	0.94	—	—	—	1.75	5.00	16/8	5/8-11 UNC
5"	2.19	0.94	0.94	—	—	—	1.75	5.00	16/8	3/4-10 UNC
6"	2.19	1.00	1.00	—	—	—	2.00	6.00	16/8	3/4-10 UNC
8"	2.38	1.12	1.12	—	—	—	2.25	6.00	16/8	3/4-10 UNC
10"	2.69	1.19	1.19	—	—	—	2.25	7.00	24/12	7/8-9 UNC
12"	3.00	1.25	1.25	—	—	—	2.50	7.00	24/12	7/8-9 UNC
14"	3.01	1.38	1.38	—	—	—	2.50	7.00	24/12	1-8 UNC
16"	3.38	1.44	1.44	—	—	—	3.00	8.00	32/16	1-8 UNC
18"	4.12	1.56	1.56	—	—	—	3.00	9.00	32/16	1 1/8-7 UNC
20"	5.14	1.69	1.69	—	—	—	3.50	10.00	40/20	1 1/8-7 UNC
24"	5.98	1.88	1.88	—	—	—	4.00	11.00	40/20	1 1/4-7 UNC
30"	6.57	2.12	—	—	—	—	3.50	—	56	1 1/4-7 UNC
		—	—	—	1.75	—	3.00	—	56	
		—	—	—	—	2.00	3.50	—	56	
		—	—	2.94	—	—	4.25	—	56	
36"	8.00	2.38	—	—	—	—	4.00	—	64	1 1/2-6 UNC
		—	—	—	2.06	—	3.50	—	64	
		—	—	—	—	2.31	4.00	—	64	
		—	—	3.56	—	—	5.00	—	64	
42"	9.88	2.62	—	—	—	—	4.50	—	72	1 1/2-6 UNC
		—	—	—	2.31	—	4.00	—	72	
		—	—	—	—	2.69	4.50	—	72	
		—	—	3.81	—	—	5.50	—	72	
48"	10.87	2.75	—	—	—	—	4.50	—	88	1 1/2-6 UNC
		—	—	—	2.56	—	4.50	—	88	
		—	—	—	—	3.06	5.00	—	88	
		—	—	4.25	—	—	6.00	—	88	

Table 2 Recommended Bolt Lengths



Care & Maintenance:

No regular maintenance is required on SCI butterfly valves, but it is advisable to “exercise” the valve from full open to full closed and back to verify that the valve is functioning properly.